



## Minimizing Safety Risks during Facility Dismantlement

The dismantlement of the 704-R Building provides an example of effective use of specialized equipment to get a job done quickly, efficiently, and safely.

### **Background**

The 704-R building was originally an administration building and maintenance area used during the operation of R Reactor. This L-shaped building, composed of a metal frame with a concrete slab roof measuring approximately 18,600 square feet, was built in 1953. The structure was almost entirely enclosed in asbestos material with transite exterior panels. Interior walls, floor tile, mastic, roofing, and insulation materials contained asbestos. Used for a period of time as a radioactive material storage area, the facility was subsequently rolled back and released as a clean facility.

Because of the poor condition of exits and egress paths and insect infestation, this facility constituted a safety hazard. To eliminate these hazards and provide a lay-down area for future activities at R Reactor, 704-R was scheduled for dismantlement and removal (D&R).

Last year, the facility was cleaned inside and out of nearly all asbestos materials. All work was performed on schedule, within budget, and

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# ...and now for the GOOD NEWS

FACILITIES DECOMMISSIONING DIVISION



*704-R building during removal of the siding. This facility was originally an administration building and maintenance area during the operation of R Reactor.*



*704-R dismantlement using a hydraulic power shear attached to a track hoe.*



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with no lost-time accidents. Late in the fiscal year, however, the project was suspended because of funding limitations.

This fiscal year, as a prelude to the D&R of the building, construction crews removed the remaining asbestos, PCBs, oil, and other hazardous material from the facility. The necessary documents were acquired to properly handle material disposal cleared from Building 704-R. Finally the DOE and SCDHEC gave authorization to proceed with the demolition.

The construction crew wasted no time in getting the work done. They acquired a large track hoe with a hydraulic power shear attachment to cut, rip, and shear steel frame members ranging in size from 10 to 18 inches. Within 17 working hours, the entire structure was reduced to massive piles of twisted steel beams and concrete rubble.

Using a power shear in D&R work was not new to this construction crew, who had last year used a much smaller model on the Rotunda Building in B Area. The crew's previous experience using the same equipment to dismantle the old bridge at the clover leaf intersection of C Road and Road 2 inspired the crew's superintendent to mobilize the larger model for the 704-R Building.

### ***Safety risks significantly reduced—***

Using the right piece of equipment for the job significantly reduced safety risks. This process eliminated dismantlement hazards associated with burning notches in beams and columns, falling debris, elevated work, and lead paint exposure. The job was completed without a single injury or first aid case to any of the workers.

### ***Cost and schedule savings—***

By using the power shear, the construction crew reduced manpower requirements by half. Approximately three months of work (the time required for use of a torch and pulling down the building with a piece of heavy equipment) were saved. As a result of the construction crew's innovation and safety attitude, the 704-R building dismantlement was a complete success.



*The shear attachment was used to easily cut the steel frame members and quickly separate the scrap.*

***For further information,  
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